

**REMARKS**

**A. The 35 U.S.C. § 101 Rejections**

Claims 1-7 were rejected under 35 U.S.C. §101, the Examiner taking the position that the claimed subject matter is directed to non-statutory subject matter. Specifically, the Examiner contends that the Applicants' invention is neither tied to a particular machine or apparatus nor does it transform a particular article into a different state or thing. The Applicants respectfully disagree and traverse these rejections for at least the following reasons.

In *In re Bilski*, 545 F.3d 943, 88 U.S.P.Q.2d 1385 (Fed. Cir. 2008) ("*Bilski*"), the Federal Circuit began its analysis by articulating some well-settled tenets governing the patentability of a method claim, e.g., a method claim "is not a patent eligible process if it claims laws of nature, natural phenomena, abstract ideas" (citing *Diamond v. Diehr*, 450 U.S. 175, 185 (1981)), or "mental processes" (citing *Gottschalk v. Benson*, 409 U.S. 63,67 (1972)). *In re Bilski*, 545 F.3d at 952. The Court was careful to note, however, that the "mere fact that a claimed invention involves inputting numbers, calculating numbers, outputting numbers, and storing numbers, in and of itself, [does] not render it non-statutory subject matter." *In re Bilski*, 545 F.3d at 961, quoting *AT & T Corp. v. Excel Commc'ns, Inc.*, 172 F.3d 1352, 1359 (Fed.Cir.1999); *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368, 1374 (Fed. Cir. 1998). In arriving at its decision the *Bilski* Court reaffirmed "that the machine-or-transformation test, properly applied, is the governing test for determining patent eligibility of a process under §101." *In re Bilski*, 545 F.3d at 956.

According to *Bilski*, the machine-or-transformation test is a two-pronged inquiry: an applicant may show that a process claim satisfies § 101 either by showing that his claim is tied to a particular machine, or by showing that his claim transforms an article. *In re Bilski*, 545 F.3d at

961-62. *Bilski* includes several important corollary rationales which, for the present, represent questions to be asked to determine whether a particular method or process falls into one of the two prongs and, therefore, whether the claim covers patentable or unpatentable subject matter. These corollary rationales are outlined below under their appropriate "machine" or "transformation" heading:

**(a) (machine) is the process tied to a particular machine or apparatus?**

(a1) If the process is tied to a particular machine or apparatus, does such a combination pre-empt all uses of a fundamental principle in any field? Or is such a combination just limited to a particular application of the process/machine combination? *In re Bilski* , 545 F.3d at 957.

(a2) does the use of a specific machine or apparatus impose meaningful limits on the claim scope to impart patent-eligibility? *In re Bilski* , 545 F.3d at 961.

(a3) does the involvement of a machine or apparatus in the claimed process amount to merely insignificant extra-solution activity? *In re Bilski* , 545 F.3d at 962.

**(b) (transformation) does the process transform a particular: (1) article, (2) object, (3) substance; (4) data that is clearly related to physical and tangible objects, articles or substances; or (5) data or electronic signals that represent such physical and tangible articles, objects or substances, into a different state or thing;**

(b1) does patentability of the process hinge on insignificant post-solution activity? (e.g., a general, as opposed to specific, data gathering step). See the discussion of *Diehr*, *In re Bilski* , 545 F.3d at 957.

(b2) is the transformation that occurs in a process central to the purpose of the claimed process? *In re Bilski* , 545 F.3d at 962.

With these concepts in mind we turn to the Examiner's rejections, as follows. Initially, Applicants note that method claims 1-7 cannot be considered to involve laws of nature, natural phenomena or abstract ideas. Nor can they be considered mental processes that could be carried out by the human mind. To the contrary, the processes set forth in method claims 1-7 are so complex that the steps involved, practically speaking, require a device with far more computational capability than the human mind to complete in any reasonable time period.

Further, claims 1-7 are clearly patentable in view of the transformation prong of *Bilski*. For example, in claim 1 a predefined sequence, comprising ports and corresponding wavelengths, is transformed in order to assign a link resource. The ports and wavelengths are clearly data or electronic signals that represent physical and tangible articles, objects or substances of an optical network or node. Yet further, the assignment step is not insignificant post-solution activity. Rather, this step is central to the purpose of claim 1 (as those terms are used in *Bilski*).

Similarly, the selection step of claim 6 readily establishes the subject matter of claim 6 as being patentable under §101 using the same framework set forth above with respect to claim 1.

Accordingly, Applicants respectfully requests withdrawal of the rejections and allowance of claims 1-7.

**B. The 35 U.S.C. § 102 Rejections**

Initially, the Applicants note that there appears to be a typographical error in the Office Action. While the subheading and substance of the first set of rejections is aimed at U.S.C. § 102(e) and claims 1, 2, 6, 8, 9 and 12 the Examiner also mentions 35 U.S.C. §103. The Applicants respectfully request clarification of the rejections. Nonetheless, assuming the rejections are aimed at claims 1, 2, 6, 8, 9 and 12 and U.S.C. § 102(e) the Applicants respond as follows.

Claims 1, 2, 6, 8, 9 and 12 appear to be rejected under 35 U.S.C. § 102(e) as being anticipated by Callon, U.S. Patent No. 6,256,295 B1 (“Callon”). The Applicants respectfully disagree and traverse these rejections for at least the following reasons.

Of the rejected claims, claims 1, 6, 8 and 12 are independent claims. It is to these claims that Applicants now turn, it being understood that the remaining claims depend on these claims and, therefore, the remarks which follow apply equally to these claims as well.

Each of claims 1, 6, 8 and 12 include the selection or use of at least one predefined sequence that comprises ports and corresponding wavelengths within a node to avoid contention resulting from a connection request.

In the present Office Action the Examiner takes the position that “path 80” shown in Figure 4C of Callon is the same as the claimed predefined sequence, and further contends, in response to Applicants’ previous argument, that the phrase “predefined sequence” as defined in the specification is “nowhere found in the claims.” Office Action at 6. The Examiner states that the “predefined sequence” in the claims “read on Callon as a predefined path of consecutive nodes from the source to the destination.” *Id.* (emphasis added).

The phrase “predefined sequence” in the claims of the present invention means at least a sequence for allocating link resources *within a single node* (see lines 15-18, page 6 of the specification in conjunction with Figure 4). In contrast, the Examiner appears to adopt an interpretation of “pre-defined sequence” that includes resources between a source and destination node. As the Examiner knows well, though claims may be interpreted broadly any such interpretation must be consistent with the specification, *In re Hyatt*, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000). In the Applicants’ view, the Examiner’s interpretation of Callon’s path 80 as being the same as the claimed predefined sequence is inconsistent with the specification and, therefore, impermissible because path 80 is not within a single node.

Further, Applicants note that each of claims 1, 6, 8 and 12 are directed at optical networks while Callon is not.

Accordingly, because Callon does not disclose each and every feature of claims 1, 6, 8 and 12 it cannot anticipate these claims and their associated dependent claims under 35 U.S.C. § 102(e). The Applicants respectfully request withdrawal of the pending rejections and allowance of claims 1, 2, 6, 8, 9 and 12.

**C. The 35 U.S.C. § 103 Rejections**

Claims 3-4, 7, 10-11, and 13-14 were rejected under 35 U.S.C. §103(a) as being unpatentable over Callon. The Applicants disagree and traverse these rejections for at least the following reasons.

Initially, the Applicants note that each of claims 3-4, 7, 10-11, and 13-14 depends from one of independent claims 1, 6, 8 and 12 and are, therefore, patentable over Callon for at least the reasons set forth above.

Further, though the Examiner acknowledges that Callon does not disclose optical transport networks as in claims 3-4, 7, 10-11, and 13-14 the Examiner nonetheless contends that it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to implement the method of Callon in an optical transport network because "it is well known in the art that when a large network deploys a new architecture, it is highly desirable to reuse the existing node sites and physical routes as much as possible due to the costs of land, equipment and construction." The Applicants believe that Examiner has failed to establish a *prima facie* case of obviousness.

As the Examiner knows well, it is impermissible to conclude that a single prior art reference renders a claim obvious if such a reference must be modified to render the claim obvious and such a modification renders the principle of operation disclosed in the reference inoperable. Such is the case with the Examiner's proposed modification of Callon.

More specifically, Callon describes a method for determining a plurality of minimally-overlapping paths between a source node and a destination node. In Figure 5, a specific method is shown that iterates over available paths to remove overlapping paths from proposed connections between a source and destination node. To permissible apply Callon as a §103(a)

reference, Callon's method must operate successfully when applied to an optical network, where there are many links between each node, without changing the principle of operation of such a method. However, this does not appear to be possible because when Callon's method is used within an optical network such a method would so increase the complexity of any connection analysis and establishment to the point where any optical network attempting to apply Callon would be rendered inoperative. This is impermissible.

Accordingly, Applicants respectfully request withdrawal of the rejections and allowance of claims 3, 4, 7, 10, 11, 13 and 14.

Should there be any outstanding matters that need to be resolved in the present application the Examiner is respectfully requested to contact John E. Curtin at the telephone number listed below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 50-3777 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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